SMD Multilayer Chip Varistor

AMCV-0603LC



1.6 x 0.8 x 0.8 mm

RoHS Compliant

FEATURES:

- SMD type, small size suitable for high density mounting
- Excellent clamping ratio and strong capability of voltage surge suppression
- Excellent solderability (Ni, Sn plating)

APPLICATIONS:

- Transient voltage protection and voltage surge suppression for LED lighting
- Suitable for LCD-TV, STB, Switch, Router, PLC, Security System, smart meters, mobile phones
- Suppressing Induced / switching over-voltage caused by lightning and power
- Protecting DC-DC Module, I/O ports, IC driver

STANDARD SPECIFICATIONS:

Operating Temperature: -55˚C ~ +125℃

Storage Temperature: -10˚C ~ +40˚C and RH 70% (Max.)

Part Number	Max. Working Voltage		Varistor Voltage	Max. Clamping Voltage		Rated Single Pulse Transient		Typical Capacitance
Test Condition	<20μA		@1mA DC	8/20μs	ESD	Energy 10/1000μs	Peak Current 8/20μs	@0.5V_{rms}, 1MHz
	DC	AC RMS						
Units	Volts	Volts	Volts	Volts	Volts	Joules	Amps	pF
Symbol	V_{WDC}	V_{WAC}	V_B	V_C *1	V_C *2	E_T	I_P	C
ACMV-0603LC-140-C100	14.0	10.0	16.0-22.0	30	39	0.005	2	10
ACMV-0603LC-140-C120	14.0	10.0	16.0-22.0	30	39	0.005	2	12
ACMV-0603LC-180-C050	18.0	12.7	22.0-28.0	40	48	0.003	1	5
ACMV-0603LC-180-C100	18.0	12.7	22.0-28.0	40	48	0.005	2	10
ACMV-0603LC-180-C120	18.0	12.7	22.0-28.0	40	48	0.005	2	12
ACMV-0603LC-260-C030	26.0	18.4	31.0-38.0	58	70	0.003	1	3
ACMV-0603LC-260-C100	26.0	18.4	31.0-38.0	58	70	0.005	2	10
ACMV-0603LC-260-C120	26.0	18.4	31.0-38.0	58	70	0.005	2	12

*1: Vc, Maximum peak voltage across the varistor measured at a specified pulse current and waveform.

Energy Rating	Pulse & Waveform
0.00- 0.05 Joule	1A, 8/20μs
0.10 Joule	2A, 8/20μs
0.20-0.50 Joule	5A, 8/20μs

*2: Vc, Maximum peak voltage across the varistor measured at 30ns after initiation of pulse on IEC61000-4-2 30A/8KV.

Test Conditions

Unless otherwise specified, the standard atmospheric conditions for measurement/test as:

a. Ambient Temperature: 20±15˚C

b. Relative Humidity: 65±20%

c. Air Pressure: 86 kPa to 106 kPa

Items	Test Methods and Remarks
Varistor Voltage at 1mA DC (V_B)	Measuring current: 1mA DC Duration: 0.2 to 2 sec
Capacitance (C)	Measure source: 0.5 V_{RMS} Test frequency: 1MHz.
Leakage Current (I_L)	Measuring voltage: Maximum DC working voltage
Clamping Voltage (V_C)	Measuring source: 8/20us waveform, ESD waveform

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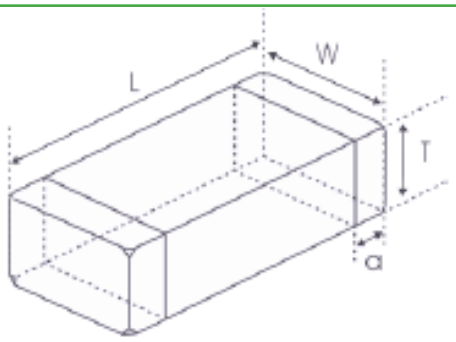
1.6 x 0.8 x 0.8 mm

OPTIONS AND PART IDENTIFICATION:

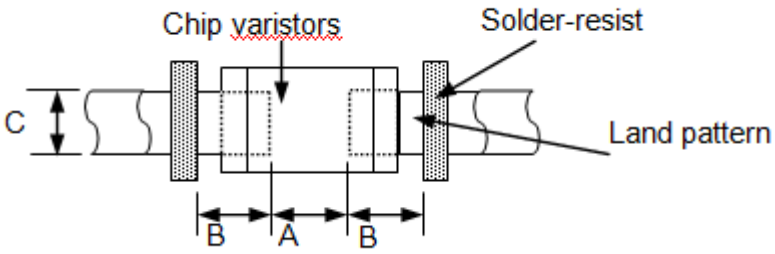
AMCV-0603LC-[ ]- C[ ][ ]-[ ]

Voltage Code	Capacitance Code	Tolerance	Packaging
Please refer to the table above	Please refer to the table above	N=±30% Y=+100%, -50% G=+0%, -60%	T: Tape and Reel (4kpcs / reel)

OUTLINE DIMENSION:



Recommended Land Pattern



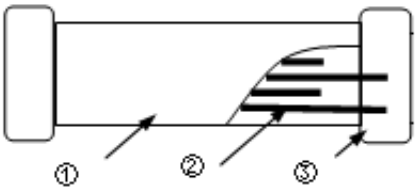
L	W	T	a
1.6±0.15 [0.063±0.006]	0.8±0.15 [0.031±0.006]	0.8±0.15 [0.031±0.006]	0.3±0.2 [0.012±0.008]

A	B	C
0.60～0.80	0.60～0.80	0.60～0.80

Dimension: mm [inch]

Materials

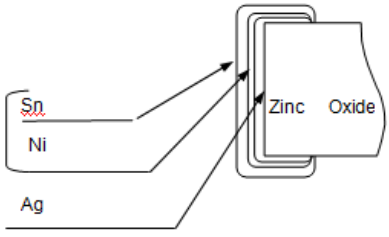
Side View



Top View



	Part Name	Material
1	**Base Material**	**ZnO**
2	**Internal Conductor**	**Ag-Pd**
3	**Terminal Electrode**	**Ag (Inner layer)** **Ni-Sn (Outer layer)**



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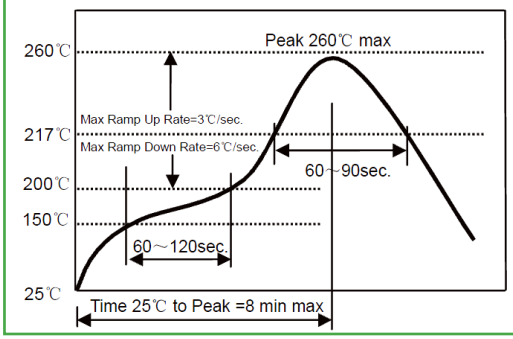
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REFLOW PROFILE:

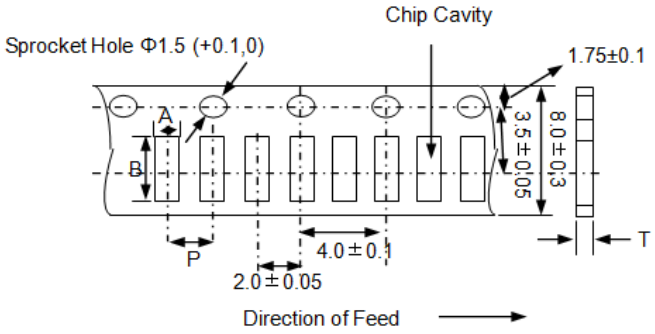


Preheat Condition	150 to 200 ˚C; 60 to 120 sec.
Allowed time above 217 ˚C	60 to 90 sec.
Max temperature	260 ˚C
Max time at max temperature	10 sec.
Solder paste	Sn/3.0Ag/0.5Cu
Allowed Reflow time	2x max.

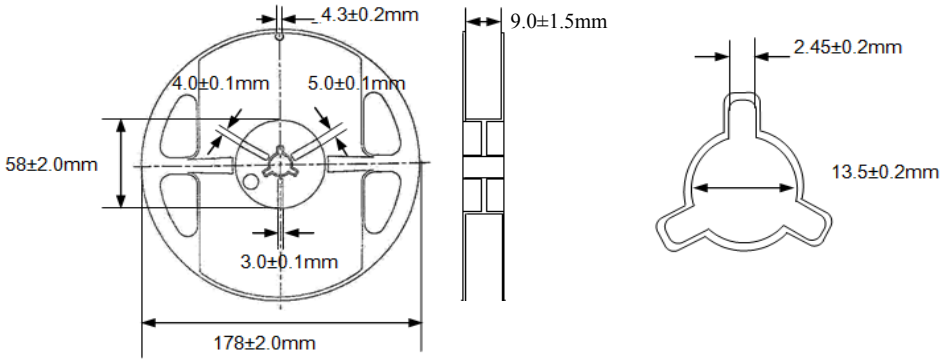
TAPE & REEL:

Packing

T: 4,000pcs / reel



A	B	P	T (max)
1.0±0.2	1.8±0.2	4.0±0.1	1.1



Storage Conditions

a. The solderability of the external electrode may be deteriorated if packages are stored where they are exposed to high humidity Package must be stored at 40ºCor less and 70% RH or less.

b. The solderability of the external electrode may be deteriorated if packages are stored where they are exposed to dust of harmful gas (e.g. HCI, sulfurous gas of H_2S).

c. Packaging material may be deformed if package are stored where they are exposed to heat of direct sunlight.

d. Solderability shall be guaranteed for 6 months from the date of delivery on condition that they are stored at the environment specified in **1.3**. The parts that are stored more than 6 months shall be checked solderability before use.

Dimension: mm

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